

CLAIM AMENDMENTS

1 1. (Currently amended) A recombinant nucleic acid for
2 promoting microbial production of L-serine directly from
3 carbohydrates, by avoiding or at least reducing decomposition of
4 the L-serine to pyruvate and which is replicable capable of
5 replication in a microorganism of the family Corynebacterium and
6 ~~optionally a recombinant nucleic acid, characterized in that it~~
7 ~~has said recombinant nucleic acid having at least one serine~~
8 ~~biosynthesis sequence selected from the group consisting of serA,~~
9 ~~serB and serC and~~ a nucleotide sequence ~~coding for~~ encoding L-
10 serine dehydratase which is partially or completely deleted or is
11 mutated ~~[[or]]~~ and which is expressed to a lesser degree than the
12 expression of the naturally occurring L-serine dehydratase having
13 nucleotide sequence of SEQ ID NO: 1 or which is not expressed at
14 all.

1 2. (Currently amended) A recombinant nucleic acid
2 according to claim 1, ~~characterized in that the sdaA gene wherein~~
3 the nucleotide sequence encoding L-serine dehydratase is partially
4 ~~or completely~~ deleted or is mutated ~~[[or]]~~ and expressed to a
5 lesser extent ~~[[by]]~~ in comparison with the expression of the
6 naturally occurring sequence of SEQ ID NO: 1 or not expressed at
7 all.

1 3. (Currently amended) A recombinant nucleic acid
2 according to ~~claim 1~~ claim 2, ~~characterized by wherein the~~
3 nucleotide sequence encoding L-serine dehydratase is a nucleotide
4 sequence according to SEQ ID NO 1 whose nucleotides [[form]] from
5 position 506 to position 918 are completely or partially deleted or
6 are mutated, or an allele functionally equivalent thereto, or a
7 homolog having a sequence complementary or derivative of this to
8 said nucleotide sequence according to SEQ ID NO 1 whose nucleotides
9 from position 506 to position 918 are completely or partially
10 deleted or are mutated or a nucleotide sequence hybridizing
11 therewith under stringent conditions with said nucleotide sequence
12 according to SEQ ID NO 1 whose nucleotides from position 506 to
13 position 918 are completely or partially deleted or are mutated.

1 4. (Currently amended) A recombinant nucleic acid
2 according to claim 1, ~~characterized in that it is~~ isolated from a
3 coryneform bacterium.

1 5. (Currently amended) A recombinant nucleic acid
2 according to claim 1, ~~characterized in that it is~~ isolated from
3 Corynebacterium or Brevibacterium.

1 6. (Currently amended) A recombinant nucleic acid
2 according to claim 1, ~~characterized in that it is~~ isolated from
3 *Corynebacterium glutamicum* or *Brevibacterium flavum*.

1 7. (Previously presented) A gene structure containing
2 at least one nucleotide sequence according to claim 1 and
3 nucleotide sequences having regulatory sequences operatively linked
4 therewith.

1 8. (Previously presented) A vector containing at least
2 one nucleotide sequence or a gene structure according to claim 7
3 and additional nucleotide sequences for selection, for replication
4 in the host cell or for integration in the host cell genome.

9 through 13 (canceled)

1 14. (Currently amended) A microorganism characterized
2 ~~in that it has~~ having at least one serine biosynthesis sequence
3 selected from the group consisting of serA, serB and serC and a
4 nucleotide sequence which codes for encodes an L-serine
5 dehydratase, which is deleted in whole or in part or is mutated
6 [[or]] and which is expressed to a reduced extent [[by]] in
7 comparison with expression of the naturally occurring L-serine
8 dehydratase having nucleotide sequence of SEQ ID NO: 1 or is not
9 expressed at all.

1 15. (Currently amended) A microorganism according to
2 claim 14, ~~characterized in that its sdaA gene~~ wherein the
3 nucleotide sequence which encodes an L-serine dehydratase has a
4 nucleotide sequence of SEQ ID NO: 1 which is wholly or partially
5 deleted or mutated [[or]] and is expressed to a reduced extent
6 [[by]] in comparison with expression of the naturally occurring
7 ~~sdaA gene~~ L-serine dehydratase or is not expressed at all.

1 16. (Currently amended) A microorganism according to
2 containing in ~~replicable~~ a form capable of replication, a nucleic
3 acid according to claim 1.

1 17. (Currently amended) A microorganism according to
2 claim 14, ~~characterized in that it is a coryneform bacteria~~
3 bacterium.

1 18. (Currently amended) A microorganism according to
2 claim 14, ~~characterized in that it brings to the family a~~ belonging
3 to the family of coryneform bacteria or brevibacteria.

1 19. (Currently amended) A microorganism according to
2 claim 14, ~~characterized in that it brings to the family a~~ belonging
3 to the family of Corynebacterium glutamicum or Brevibacterium
4 flavum.

1 20. (Currently amended) A probe for identifying and/or
2 isolating genes ~~[[for]]~~ coding for proteins which participate in
3 the biosynthesis of L-serine ~~characterized in that they are and~~
4 which has a length of 10 to 30 nucleic acids, and which contains a
5 partial sequence of the nucleic acid which encodes an L-serine
6 dehydratase, according to claim 1, -is produced starting with
7 nucleic acids according to claim 1 and contain serving as a
8 suitable marker for detection of said genes.

21 through 25 (canceled)

1 26. (New) A recombinant nucleic acid for promoting
2 microbial production of L-serine directly from carbohydrates, by
3 avoiding or at least reducing decomposition of the L-serine to
4 pyruvate and which is capable of replication in a microorganism of
5 the family Corynebacterium said recombinant nucleic acid having at
6 least one serine biosynthesis sequence selected from the group
7 consisting of serA, serB and serC and a nucleotide sequence
8 encoding L-serine dehydratase according to SEQ ID NO 1 whose
9 nucleotides from position 506 to position 918 are completely or
10 partially deleted or are mutated and expressed to a lesser degree
11 than the expression of the naturally occurring L-serine dehydratase
12 having nucleotide sequence of SEQ ID NO: 1 or which is not
13 expressed at all.

1 27. (New) The recombinant nucleic acid defined in claim
2 26 having a nucleotide sequence encoding L-serine dehydratase
3 according to SEQ ID NO 1 whose nucleotides from position 506 to
4 position 918 are completely deleted.